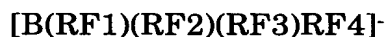


What is claimed is:

1. A battery comprising:
a cathode;
an anode; and
an electrolyte,
wherein the electrolyte contains anions expressed by Chemical formula 1.

Chemical formula 1.



(In Chemical formula 1, RF1, RF2, RF3, and RF4 represent a perfluoro alkyl group whose number of fluorine or carbon is from 1 to 12, respectively.)

2. A battery according to claim 1, wherein at least one from the group consisting of a light metal and anode materials capable of inserting and extracting a light metal is used as an anode active material.
3. A battery according to claim 1, wherein the anode contains at least one from the group consisting of a carbon material; a simple substance, alloys, and compounds of silicon (Si); and a simple substance, alloys, and compounds of tin (Sn).
4. A battery according to claim 1, wherein the anode comprises an anode current collector and an anode active material layer formed on the

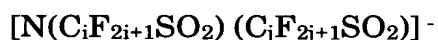
anode current collector by at least one method from the group consisting of gas phase method, liquid phase method and sinter method.

5. A battery according to claim 1, wherein a moisture content in the electrolyte is 100 ppm or less at a mass ratio in relation to the electrolyte.

6. A battery according to claim 1, wherein the electrolyte contains other anions in addition to the foregoing anions.

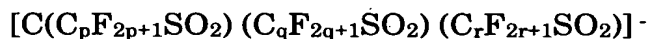
7. A battery according to claim 6, wherein the electrolyte contains at least one from the group consisting of PF_6^- , BF_4^- , ClO_4^- , ASF_6^- , anions expressed by Chemical formula 2, and anions expressed by Chemical formula 3 as the other anions.

Chemical formula 2



(In Chemical formula 2, i and j are integer numbers of 1 or more.)

Chemical formula 3



(In Chemical formula 3, p, q, and r are integer numbers of 1 or more.)

8. A battery according to claim 7, wherein the electrolyte contains PF_6^- and at least one from the group consisting of BF_4^- , ClO_4^- , ASF_6^- , anions expressed by Chemical formula 2, and anions expressed by Chemical formula 3 as the other anions.

9. A battery comprising:

a cathode;

an anode; and

an electrolyte,

wherein a capacity of the anode includes a capacity component by insertion and extraction of a light metal and a capacity component by precipitation and dissolution of a light metal, the capacity of the anode is expressed by the sum of these capacity components, and the electrolyte contains anions expressed by Chemical formula 1.

10. A battery according to claim 9, wherein the electrolyte contains other anions in addition to the foregoing anions.

11. A battery according to claim 10, wherein the electrolyte contains at least one from the group consisting of PF_6^- , BF_4^- , ClO_4^- , ASF_6^- , anions expressed by Chemical formula 2, and anions expressed by Chemical formula 3 as the other anions.

12. A battery according to claim 11, wherein the electrolyte contains PF_6^- and at least one from the group consisting of BF_4^- , ClO_4^- , ASF_6^- , anions expressed by Chemical formula 2, and anions expressed by Chemical formula 3 as the other anions.

13. A battery comprising:
a cathode;
an anode; and
an electrolyte,
wherein the electrolyte contains a high molecular weight compound and anions expressed by Chemical formula 1.
14. A battery according to claim 13, wherein the high molecular weight compound contains a polymer of vinylidene fluoride.
15. A battery according to claim 13, wherein the high molecular weight compound has a structure wherein a polymer compound having an acrylate group or a methacrylate group and no ether group is polymerized, or a structure wherein a polymer compound having a group with ether bond and a polymerization group is polymerized.
16. A battery according to claim 13, wherein the electrolyte contains other anions in addition to the foregoing anions.
17. A battery according to claim 16, wherein the electrolyte contains at least one from the group consisting of PF_6^- , BF_4^- , ClO_4^- , ASF_6^- , anions expressed by Chemical formula 2, and anions expressed by Chemical formula 3 as the other anions.

18. A battery according to claim 17, wherein the electrolyte contains PF_6^- and at least one from the group consisting of BF_4^- , ClO_4^- , ASF_6^- , anions expressed by Chemical formula 2, and anions expressed by Chemical formula 3 as the other anions.